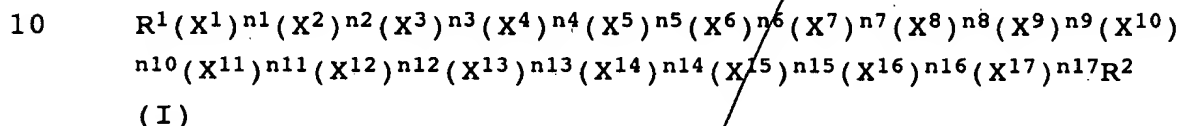


CLAIMS

1. A peptide having a cyclic structure and having an activity to restore the DNA-binding activity or the P53 protein-dependent transcription activity to mutant P53 protein, or a pharmaceutically acceptable salt thereof, said peptide being represented by general formula (I):



{wherein any of X^1 to X^{17} and n_1 to n_{17} may be denoted by X^i and n_i , respectively (i stands for an integer of 1 to 17); X^i represents an amino acid residue or an organic acid residue as defined below; n_i represents 0 or 1; $(X^i)^{n_i}$ represents X^i when n_i is 1, and represents a bond when n_i is 0; 7 to 17 different X^i s ($n_i=1$) are selected, arranged in order of increasing number i , and bonded to one another, with R^1 bonded to the N-terminus and R^2 bonded to the C-terminus, to represent one sequence, in which a functional group in residue X^p (p is an integer of 1 to 11) is selected from the group of X^1 to X^{11} and a functional group in residue X^q (q is an integer of 8 to 17, provided that q is larger than p) is selected from the group of X^8 to X^{17} form a cyclic structure; R^1 represents substituted or unsubstituted alkanoyl, substituted or unsubstituted alkoxy carbonyl, substituted or unsubstituted aralkyloxy carbonyl, substituted or unsubstituted aryloxy carbonyl, substituted or unsubstituted aroyl, 9-fluorenylmethoxycarbonyl, or hydrogen; X^1 represents a residue of 2-mercaptobenzoic acid, 3-mercaptopropionic acid, 4-mercaptobutanoic acid, mercaptoacetic acid, adipic acid, suberic acid, cysteine, homocysteine, penicillamine, aspartic acid, glutamic acid, homoglutamic acid, isoaspartic acid, isoglutamic acid, 2-amino adipic acid, 2-aminosuberic

acid, ornithine, lysine, 2,4-diaminobutanoic acid, 2,3-diaminopropionic acid, p-aminophenylalanine, serine, threonine, homoserine, α -methylserine, 3-hydroxyproline or 4-hydroxyproline; X^2 represents a residue of leucine,

5 isoleucine, valine, alanine, norvaline, norleucine, 2-aminobutanoic acid, homoleucine, β -alanine, α -aminoisobutanoic acid, β -cyclopropylalanine, β -chloroalanine, 1-aminocyclopentane-1-carboxylic acid, 1-amino-1-cyclohexanecarboxylic acid, 2-amino-1-

10 cyclopentanecarboxylic acid, t-butylglycine, diethylglycine, t-butylalanine, O-methylserine, cyclohexylglycine, cyclohexylalanine or glycine; X^3 represents a residue of lysine, arginine, ornithine, 2,4-diaminobutanoic acid, 2,3-diaminopropionic acid, p-

15 aminophenylalanine or glycine; X^4 represents a residue of serine, threonine, homoserine, α -methylserine, 3-hydroxyproline, 4-hydroxyproline, cysteine, homocysteine, penicillamine, aspartic acid, glutamic acid, homoglutamic acid, isoaspartic acid, isoglutamic acid, 2-aminoadipic acid,

20 2-aminosuberic acid, ornithine, lysine, 2,4-diaminobutanoic acid, 2,3-diaminopropionic acid, p-aminophenylalanine, glycine, 2-mercaptobenzoic acid, 3-mercaptopropionic acid, 4-mercaptobutanoic acid, mercaptoacetic acid, adipic acid or suberic acid; X^5 represents a residue of lysine, arginine,

25 ornithine, 2,4-diaminobutanoic acid, 2,3-diaminopropionic acid, p-aminophenylalanine or glycine; X^6 represents a residue of lysine, arginine, ornithine, 2,4-diaminobutanoic acid, 2,3-diaminopropionic acid, p-aminophenylalanine or glycine; X^7 represents a residue of alanine, β -alanine, 2-aminobenzoic

30 acid, 3-aminobenzoic acid, 4-aminobenzoic acid, 3-aminomethylbenzoic acid, proline, 3-hydroxyproline, 4-hydroxyproline, L-1,2,3,4-tetrahydroisoquinoline-7-carboxylic acid, cysteine, homocysteine, penicillamine, 2,3-diaminopropionic acid, 2,4-diaminobutanoic acid,

35 ornithine, lysine, p-aminophenylalanine, aspartic acid, glutamic acid, isoaspartic acid, isoglutamic acid, 2-

aminoadipic acid, 2-aminosuberic acid or glycine; x^8 represents a residue of glutamine, asparagine, cysteine, homocysteine, penicillamine, aspartic acid, glutamic acid, homoglutamic acid, isoaspartic acid, isoglutamic acid, 2-
 5 aminoadipic acid, 2-aminosuberic acid, ornithine, lysine, 2,4-diaminobutanoic acid, 2,3-diaminopropionic acid, p-aminophenylalanine, serine, threonine, homoserine, α -methylserine, 3-hydroxyproline, 4-hydroxyproline, glycine, 2-mercaptobenzoic acid, 3-mercaptopropionic acid, 4-
 10 mercaptobutanoic acid, mercaptoacetic acid, adipic acid or suberic acid; x^9 represents a residue of serine, threonine, homoserine, α -methylserine, 3-hydroxyproline, 4-hydroxyproline, cysteine, homocysteine, penicillamine, aspartic acid, glutamic acid, homoglutamic acid, isoaspartic
 15 acid, isoglutamic acid, 2-aminoadipic acid, 2-aminosuberic acid, ornithine, lysine, 2,4-diaminobutanoic acid, 2,3-diaminopropionic acid, p-aminophenylalanine, glycine, 2-mercaptobenzoic acid, 3-mercaptopropionic acid, 4-mercaptobutanoic acid, mercaptoacetic acid, adipic acid or
 20 suberic acid; x^{10} represents a residue of serine, threonine, homoserine, α -methylserine, hydroxyproline, cysteine, homocysteine, penicillamine, aspartic acid, glutamic acid, homoglutamic acid, isoaspartic acid, isoglutamic acid, 2-aminoadipic acid, 2-aminosuberic acid, ornithine, lysine,
 25 2,4-diaminobutanoic acid, 2,3-diaminopropionic acid, p-aminophenylalanine, glycine, 2-mercaptobenzoic acid, 3-mercaptopropionic acid, 4-mercaptobutanoic acid, mercaptoacetic acid, adipic acid or suberic acid; x^{11} represents a residue of serine, threonine, homoserine, α -
 30 methylserine, hydroxyproline, cysteine, homocysteine, penicillamine, aspartic acid, glutamic acid, homoglutamic acid, isoaspartic acid, isoglutamic acid, 2-aminoadipic acid, 2-aminosuberic acid, ornithine, lysine, 2,4-diaminobutanoic acid, 2,3-diaminopropionic acid, p-aminophenylalanine,
 35 glycine, 2-mercaptobenzoic acid, 3-mercaptopropionic acid, 4-mercaptobutanoic acid, mercaptoacetic acid, adipic acid or

suberic acid; X^{12} represents a residue of lysine, arginine,
 ornithine, 2,4-diaminobutanoic acid, 2,3-diaminopropionic
 acid, p-aminophenylalanine or glycine; X^{13} represents a
 residue of histidine, alanine, 4-thiazolylalanine, 2-
 5 thienylalanine, 2-pyridylalanine, 3-pyridylalanine, 4-
 pyridylalanine, (3-N-methyl)piperidylalanine, 3-(2-
 quinoyl)alanine, serine, threonine, homoserine, α -
 methylserine, 3-hydroxyproline, 4-hydroxyproline, cysteine,
 homocysteine, penicillamine, aspartic acid, glutamic acid,
 10 homoglutamic acid, isoaspartic acid, isoglutamic acid, 2-
 aminoadipic acid, 2-aminosuberic acid, ornithine, lysine,
 2,4-diaminobutanoic acid, 2,3-diaminopropionic acid, p-
 aminophenylalanine or glycine; X^{14} represents a residue of
 lysine, arginine, ornithine, 2,4-diaminobutanoic acid,
 15 2,3-diaminopropionic acid, p-aminophenylalanine, serine,
 threonine, homoserine, α -methylserine, 3-hydroxyproline,
 4-hydroxyproline, cysteine, homocysteine, penicillamine,
 aspartic acid, glutamic acid, homoglutamic acid, isoaspartic
 acid, isoglutamic acid, 2-aminoadipic acid, 2-aminosuberic
 20 acid or glycine, and an amino group or guanidino group in the
 side chain of X^{14} may be modified with R^3 (R^3 has the same
 significance as R^1); X^{15} represents lysine, arginine,
 ornithine, 2,4-diaminobutanoic acid, 2,3-diaminopropionic
 acid, p-aminophenylalanine or glycine; X^{16} represents a
 25 residue of leucine, alanine, 4-thiazolylalanine, 2-
 thienylalanine, isoleucine, norleucine, homoleucine, valine,
 norvaline, β -alanine, α -aminoisobutanoic acid, 2-
 aminobutanoic acid, β -cyclopropylalanine, β -chloroalanine,
 1-aminocyclopentane-1-carboxylic acid, 1-amino-1-
 30 cyclohexanecarboxylic acid, 2-amino-1-
 cyclopentanecarboxylic acid, t-butylglycine,
 diethylglycine, t-butylalanine, O-methylserine,
 cyclohexylglycine, cyclohexylalanine or glycine; X^{17}
 represents a residue of 2-mercaptoaniline, cysteamine,
 35 homocysteamine, cysteine, homocysteine, penicillamine,
 ornithine, lysine, 2,3-diaminopropionic acid, 2,4-

diaminobutanoic acid, p-aminophenylalanine, glutamic acid, aspartic acid, homoglutamic acid, isoaspartic acid, isoglutamic acid, 2-aminoadipic acid or 2-aminosuberic acid; R^2 represents substituted or unsubstituted alkoxy, substituted or unsubstituted aralkyloxy, amino, substituted or unsubstituted alkylamino, substituted or unsubstituted dialkylamino, substituted or unsubstituted aralkylamino, substituted or unsubstituted arylamino, or hydroxy; and one to several residues which are the same or different and arbitrarily selected from the group consisting of organic acid residues, amino acid residues and a 12-aminododecanoic acid residue mentioned in the above X^i representations may be deleted, substituted or added at arbitrary positions in the sequence}.

2. A peptide having a cyclic structure or a pharmaceutically acceptable salt thereof according to claim 1, wherein said cyclic structure is formed by a 3-S, S-CH₂-S, S-CH₂-C₆H₄-CH₂-S, S-CH₂-CO, CO-NH, NH-CO, O-CO or CO-O bond between X^p and X^q .

3. A peptide having a cyclic structure or a pharmaceutically acceptable salt thereof according to claim 2, wherein X^p ($n_p=1$) is an N-terminal residue and X^q ($n_q=1$) is a C-terminal residue.

4. A peptide having a cyclic structure or a pharmaceutically acceptable salt thereof according to claim 2, wherein X^p ($n_p=1$) is not an N-terminal residue and X^q ($n_q=1$) is not a C-terminal residue.

5. A peptide having a cyclic structure or a pharmaceutically acceptable salt thereof according to claim 2, wherein X^p ($n_p=1$) is not an N-terminal residue and X^q ($n_q=1$) is a C-terminal residue.

6. A peptide having a cyclic structure or a pharmaceutically acceptable salt thereof according to claim 2, wherein X^p ($n_p=1$) is an N-terminal residue and X^q ($n_q=1$) is not a C-terminal residue.

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7. A peptide having a cyclic structure or a pharmaceutically acceptable salt thereof according to claim 3, wherein X^p ($n_p=1$) is X^1 and X^q ($n_q=1$) is X^{17} .

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8. A peptide having a cyclic structure or a pharmaceutically acceptable salt thereof according to claim 6, wherein X^p ($n_p=1$) is X^1 and X^q ($n_q=1$) is X^{17} .

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9. A peptide having a cyclic structure or a pharmaceutically acceptable salt thereof according to claim 3, wherein X^p ($n_p=1$) is X^1 and X^q ($n_q=1$) is X^{16} .

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10. A peptide having a cyclic structure or a pharmaceutically acceptable salt thereof according to claim 6, wherein X^p ($n_p=1$) is an N-terminal residue and X^q ($n_q=1$) is X^8 .

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11. A peptide having a cyclic structure or a pharmaceutically acceptable salt thereof according to claim 4, wherein X^p ($n_p=1$) is X^8 and X^q ($n_q=1$) is X^{14} .

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12. A peptide having a cyclic structure or a pharmaceutically acceptable salt thereof according to claim 5, wherein X^p ($n_p=1$) is X^3 and X^q ($n_q=1$) is a C-terminal residue.

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13. A peptide having a cyclic structure or a pharmaceutically acceptable salt thereof according to claim 4, wherein X^p ($n_p=1$) is X^3 and X^q ($n_q=1$) is not a C-terminal residue.

14. A peptide having a cyclic structure or a pharmaceutically acceptable salt thereof according to claim 6, wherein X^p ($n_p=1$) is an N-terminal residue and X^q ($n_q=1$) is X^{11} .

15. A peptide having a cyclic structure or a pharmaceutically acceptable salt thereof according to claim 1, said peptide having an amino acid sequence shown by one of SEQ ID NOS: 4-7 and 16-32 in which one to several residues which are the same or different and arbitrarily selected from the group consisting of organic acid residue, amino acid residues and a 12-aminododecanoic acid residue mentioned in the X^i representations in claim 1 may be deleted, substituted or added.

16. A peptide having a cyclic structure or a pharmaceutically acceptable salt thereof according to claim 15, said peptide having an amino acid sequence shown by one of SEQ ID NOS: 4-7, 16, 19 and 25-32 in which one to several residues which are the same or different and arbitrarily selected from the group consisting of organic acid residues, amino acid residues and a 12-aminododecanoic acid residue mentioned in the X^i representations in claim 1 may be deleted, substituted or added.